

REMARKS

The Office Action of April 11, 2008 has been received and its contents carefully considered.

The present Amendment revises one of the dependent claims, and adds two new dependent claims. It also forwards a new Abstract in response to the objection in section 1 of the Office Action. The revised Abstract does not exceed 150 words, so it is respectfully submitted that the objection should be withdrawn.

The arrangement shown in Figure 1 of the application's drawings includes a device 11 having an inspection watermarks signal generation unit 101. The unit 101 generates signals that are conveyed along two paths. Along one of these paths, an inspection watermark medium 104 is printed with inspection watermark data imbedded therein. The other path provides electrical inspection training data 105, which is conveyed to a device 12. The device 12 includes an input unit 106 that scans the (printed) inspection watermark medium 104. A print quality judgment unit 108 compares information detected from the output of the input unit 106 with the inspection training data 105. Watermark signal information in the inspection training data 105 is used to form a training information matrix, watermark signal values detected from the scanned medium 104 are used to form a detection information matrix, and then a different matrix is calculated (see, for example, the paragraph at page 28 of the application, lines 17-21). This forms a basis for determining a print adjustment value.

Section 2 of the Office Action rejects independent claims 1 and 20 (along with various dependent claims) for anticipation by a published US application by Ikeda et al. This reference will hereafter be called simply "Ikeda" for the sake of convenient discussion. For the reasons discussed below, it is respectfully submitted that the inventions defined by independent claims 1 and 20 are patentable over this reference.

Claim 1 recites (with emphasis added):

1. A print medium quality adjustment system comprising an inspection watermark medium output device that outputs an inspection watermark medium to be used to inspect a print medium; and a watermark quality inspection device that inspects the quality of a watermark in the print medium, wherein:

- a. the inspection watermark medium output device includes
 - (1) an inspection watermark signal generation unit that generates a single inspection watermark signal or a plurality of inspection watermark signals, to be used for inspection,
generates a watermark signal image by disposing the inspection watermark signal(s) in an arbitrary arrangement, and
generates inspection training data having N-dimensionally encoded data indicating a numerical value, which are obtained by digitizing the inspection watermark signal(s), N being a positive integer equal to or greater than 2; and
 - (2) **an inspection medium output unit that outputs an inspection watermark medium to be used for inspection, created by printing the inspection watermark signal(s) onto a medium; and**
- b. the watermark quality inspection device includes:
 - (1) **an input unit that takes in the inspection watermark medium** as a multi-value gradation input image;
 - (2) a signal detection unit that detects a signal embedded in the input image and **extracts embedded watermark information** from the signal;
 - (3) **a print quality judgment unit that judges watermark quality by comparing the watermark information with the inspection training data** input thereto; and
 - (4) a print adjustment value output unit that outputs, based upon the results of the quality judgment, a print adjustment value to be used to improve the print quality.

The Ikeda reference discloses a system in which a dot pattern constituting anti-forgery information is added to a target image. Ikeda's objective is to optimize the visual appearance of the dot pattern, so that the dot pattern is readable but not too conspicuous (see paragraph [0064]).

In the top paragraph on page 3, the Office Action takes the position that Ikeda "generates inspection training data having N-dimensionally encoded data indicating a numerical value, which are obtained by digitizing the inspection watermark signal(s), N being a positive integer equal to or greater than 2." In support of this comment, the Office

Action refers to paragraph's [0053]-[0056] and Figure 8 of the reference. However, it is respectfully submitted that an ordinarily skilled person would interpret these paragraphs merely as meaning that AddOn dot patterns formed at different energy levels are used to create a printed text pattern. It is respectfully submitted that this is different from generating "inspection training data having N-dimensionality encoded data indicating a numerical value, which are obtained by digitizing the inspection watermark signal(s) ..." in accordance with claim 1.

Since Ikeda does not disclose the "inspection training data" that is defined by claim 1, "a print quality judgment unit that judges watermark quality by comparing the watermark information" extracted from a signal embedded in an input image "with the inspection training data ..." as recited in claim 1 is also clearly absent.

In view of these distinctions, it is respectfully submitted that the rejection of claim 1 for anticipation should be withdrawn. Nor would Ikeda have provided an incentive that would have motivated an ordinarily skilled person to modify Ikeda's arrangements so as to achieve the invention defined by claim 1.

Turning now to independent claim 20, this claim recites that "the inspection training data is obtained by N-dimensionally encoding data indicating a numerical value, which are obtained by digitizing a single inspection watermark signal or a plurality of inspection watermark signals, N being a positive integer equal to or greater than 2." The claim also recites that a print quality judgment unit "judges the watermark quality by comparing the watermark information with the inspection training data ...". For the reasons along the lines discussed above with respect to claim 1, it is respectfully submitted that the invention defined by claim 20 is neither anticipated by Ikeda nor rendered obvious by the reference.

The remaining claims depend (either directly or indirectly) from claims 1 and 20 and recite additional limitations to further define the invention of their independent claims. They are therefore automatically patentable along with the independent claims. Nevertheless, several dependent claims will now be briefly addressed.

Claim 9 depends from claim 1, and recites that "the inspection watermark signal generation unit embeds characteristics information indicating document image

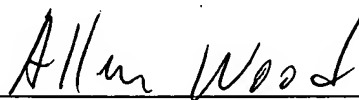
characteristics needed for tampering detection processing as the inspection watermark.” In Ikeda, so-called “anti-forgery” measures are achieved by embedding information that is printed on the document. In contrast, the present invention achieves “tampering detection” measures by embedding information obtained by converting information included in the document (“document image characteristics information”) to a signal. Applicant’s “tampering deletion” is not the same as Ikeda’s “anti-forgery” measures. When the original information provided on a medium is tampered with, an ordinarily skilled person would doubt that such tampering can be deleted by the system disclosed in the Ikeda reference.

Claim 11 also depends from claim 1, and has been amended to recite that “the inspection watermark signal includes a plurality of signals that specify different dot arrangements.” In contrast, Ikeda’s Figure 8 shows AddOn dots that are printed at different energy levels, not different arrangements.

New claim 40 depends from claim 1, and provides that the “inspection training data” are electrical data that are obtained entirely electrically, without a printing step. New claim 41 is similar but depends from independent claim 20. In contrast, an ordinarily skilled person would likely interpret Ikeda as meaning that the test sample shown in Figure 8 of the reference is a printed-on medium.

For the foregoing reasons, it is respectfully submitted that this application is in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script that reads "Allen Wood". The signature is written in dark ink and is positioned above a horizontal line.

Allen Wood
Registration No. 28,134
Rabin & Berdo, P.C.
Customer No. 23995
(202) 326-0222 (telephone)
(202) 408-0924 (facsimile)

AW/ng